SPECIFICATION AMENDMENTS

Replace the paragraph beginning at page 1, line 9 with:

Schottky gate field effect transistors, such as a metal-semiconductor field effect transistor (hereinafter referred to as MESFET), a pseudomorphic high electron mobility transistor (hereinafter reffered to as PHEMT), and the like using GaAs or InP are used ~~as high-frequency transistors used~~ in a microwave band to a milliwave band. These devices have been known to undergo elemental deterioration caused by an electric field in the case of a high radio frequency (hereinafter referred to as RF) output operation described in GaAs IC symposium (1995), pp81-84 and GaAs IC symposium (1994), pp259-262. Particularly it is demanded of high frequency transistors to have high frequency characteristics ~~and~~, so that elemental dimensions, such as ~~a~~ gate length and ~~a~~ channel depth, are ~~therefore~~ designed to be ~~smaller~~ smaller. When such an element is operated under high voltage, the electric field becomes very high and therefore a characteristic deterioration caused by the electric field is easily caused. For example, GaAs PHEMTs are reduced in output in ~~a~~ an RF reliability test preformed at room temperature and the temperature of these devices ~~become~~ becomes high when they are operated as described in the GaAs MANTECH (1997), pp42-45.

Replace the paragraph beginning at page 1, line 25 with:

Also, in a high electron mobility transistor which is provided with a first semiconductor layer having a narrow band gap and a second semiconductor layer having a wide band gap ~~and in which~~, a two-dimensional electron gas channel is formed at the boundary between the first semiconductor layer and the second semiconductor layer~~, a~~. A third semiconductor layer, as a gate section ~~which~~, forms a p-n junction between itself and the second semiconductor layer and has a ~~conductor lower end~~ conduction band edge higher than that of the second semiconductor layer ~~in the energy band structure to constitute~~. Thus, a barrier is disposed on the second semiconductor layer, thereby constituting the transistor, as described in Japanese Laid-Open Patent Publication No. 64-36080. Further, there is a compound semiconductor device in which a compound semiconductor layer (energy barrier layer) having a larger band gap than a carrier supply layer and a buffer layer is inserted into these layers ~~to thereby form an~~. A energy barrier against ~~carriers thereby~~ carrier flow is formed, decreasing ~~leak~~ leakage current and also improving low noise properties as described in Japanese Laid-Open Patent Publication No. 6-244218. Also, there is a high electron mobility transistor in which a layer having a large forbidden band width is formed in the

carrier supply layer to prevent inflow of holes as described in Japanese Laid-open Patent Publication No. 9-205196.

Replace the paragraph beginning at page 2, line 18 with:

The deterioration mechanism of a PHEMT is considered to be as follows. First, hot carriers ~~of~~, hot electrons or hot holes, having high energy due to impact ionization when the PHEMT is operated in a high electric field ~~is~~ are generated. These hot carriers reach the surface of a semiconductor device and deteriorate the surface. In the case where these hot carriers are hot electrons, they are trapped by a surface passivation film and a depletion layer is widened by the negative charge, causing channel contraction. Alternatively, the hot carriers may cause damage to the surface of the semiconductor device. As a consequence, the Imax value drops, so that the characteristics of the PHEMT are deteriorated. This deterioration mechanism becomes more significant with an increased electric field. Also, because impact ionization energy is large in InP type HEMT or metamorphic HEMT which improves high frequency characteristics, the deterioration ~~characteristics~~ is significant.

Replace the paragraph beginning at page 4, line 2 with:

Fig. 2 is a schematic view of a process in which hot carriers ~~are made to be recombined~~ recombine and ~~to~~ become extinct ~~by~~ due to a barrier layer and a recombination layer in the semiconductor device shown in Fig. 1;

Replace the paragraph beginning at page 4, line 7 with:

Fig. 4 is a schematic view of ~~a process of flowing~~ hot holes flowing under a barrier layer into a source electrode ~~by~~ through a p+ layer ~~formed~~ under the source electrode in the semiconductor device shown in Fig. 3;